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**A FULLY INTERGRATED APPROACH TO UNDERSTANDING COMPLEX
TRIASSIC TAG-I RESERVOIRS: BLOCK 405a, BERKINE BASIN, ALGERIA.**

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The Menzel Ledjmat discoveries (MLN, MLN 3/6 and MLC Fields) of Block 405a currently under development are reservoired in the Triassic Carnian aged Triassic Argilo-Gresseux Inferior (TAG-I) sequence. This interval comprises a stacked accumulation of interbedded sandstones and more extensive thin shales of continental depositional origin. The fields are delineated by a combination of structural, stratigraphic and faulting styles, which conform to the regional structural and sedimentological framework.

To aid in the development programme of these fields, a number of evaluation techniques have been applied which when fully integrated have led to better understanding of the deposition, distribution and spatial variation of the reservoir sands. 3D seismic, acoustic impedance and far offset stack volumes have been used to define fine scale faulting and reservoir surfaces. Detailed sedimentology, rock (poroperm), petrographic and chemostratigraphic analysis has established a framework for depositional environmental and reservoir mapping. Several examples of the use of these techniques will be given. The reservoir mapping has been used for the construction of engineering simulator models in Eclipse, while the sedimentology and environments of deposition have formed the basis of mathematical stochastic modelling using IRAP RMS.

The complex nature of continental braided river belts has thus been predicted using this approach to aid in the better location development and assist in the long term reservoir management of these fields. The predicted reservoir connectivity has been investigated by long-term production, interference tests between appraisal and development wells.